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Income effects in environmental valuation – what is the relevant income measure?

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It is a general assumption in environmental economics, that the higher the wealth and income of people, the more they are prepared to sacrifice income for environmental public goods. This may arise for one or both of two effects: First and foremost, the marginal utility of income (and hence consumption of all other goods) is assumed to decrease the larger income of individuals, in turn increasing their willingness to pay for environmental improvements. Secondly, we cannot exclude that growth in income and wealth systematically changes preferences and relative marginal utilities of environmental public goods relative to other goods.

In the environmental valuation literature, it is customary to investigate income sensitivity of willingness to pay by examining the variation of the cost or price parameter in preference based valuation models with respect to relevant measures of *current income*. Findings are not overwhelming in support of decreasing marginal utility with increasing current income. Relying on both older and newer economic and psychological theory, we propose that in fact current income may not be the best or the sole relevant measure of income and wealth, and we compare its performance with two alternative measures arising from the theoretical foundation of prospect theory. First, drawing on the lifecycle and permanent income framework, we hypothesize that variations in current marginal utility of income may as well be reflecting variations in respondents' expectations about future income, and test this hypothesis using four datasets from two countries, where such expectations were elicited. They vary in whether looking at net or gross income. Second, drawing on (relatively) newer knowledge from behavioral economics and psychology, we hypothesize that perceived relative wealth can explain variation in marginal utility of income. We test this hypothesis using data where we elicited respondents' perceived wealth relative to friends, neighbors and relatives.